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EDITED BY GEORGE DIMMOCK AND B. PICKMAN MANN.

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Cocoon-making and Egg-laying of Spiders.

In the afternoon of May 26, I found, on the under side of a stone, a female *Herpyllus ater* at work on a nearly finished cocoon. She was so attentive to her work that she merely stopped while the stone was rolling over, and then went on as before. The spider had been enclosed in a bag of silk large enough for her to move about in easily, and the cocoon was in the upper part against the stone. A circular portion of the bag attached to the stone had been thickened by the spider, and this circular patch formed one half of the cocoon. The eggs, about forty in number, were beneath the centre of this circle and supported by threads passing under them from one point in its rim to another. When discovered the spider was completing the lower half of the cocoon by threads crossing in all directions under the eggs and attached to those first spun from the rim of the cocoon.

The finished cocoon of *H. ater*, although the spider remains clinging to it, shows no trace of a thin bag like the one described above. I found that the portions adhering to this unfinished cocoon had nearly disappeared by drying before I reached home, so that, from this cause and by the motion of the spider about the cocoon, the whole bag may be easily destroyed, even if not taken away purposely by the spider.

The same evening I found in an old Solidago top, near her web, a female *Epeira strix*, with the abdomen much distended. I took her home and kept her in a glass for three days. On the fourth night she got out of the glass, climbed up on my bureau, and, when I first noticed her next morning, she was

making her cocoon under a projecting portion of the looking-glass frame. She had already made a bunch, apparently hollow, of the fine wrinkled silk often found inside of spiders' cocoons. She attached her spinnerets to the silk already spun, then drew them away six or eight millimetres, spinning out a short band of fine threads which she attached again near the starting point thus making a short loop. She then made other loops, moving a short distance at each stroke, without following any regular direction, until tired; then rested a few minutes, and went on with another part of the cocoon. After half an hour the spider rested beneath the cocoon, with the opening of her ovaries under the centre, and discharged her eggs upwards between the threads into it. The eggs were very soft and flexible, and formed, with a small amount of liquid, a jelly-like mass; which became spherical as soon as it found room in the cocoon. The lower part protruded between the loose threads without flowing through. In a minute the eggs were all laid, and the spider began immediately to strengthen the lower part of the cocoon.

Several times I have had females of *Epeira patagiata* and *Epeira (Argiope) riparia* lay their eggs in bottles; but, although the cocoons were made, and, in the case of *E. riparia*, finished even to the smooth outside, the eggs were laid loose in the bottle. The reason seems to be that, owing to the narrowness of the bottle, after the spider had made the first part of the cocoon, she could not get into a proper position to discharge her eggs into it.

J. H. Emerton.

List of Noctuidae taken about Newton, Mass.

The following list of Noctuidae, collected for the most part by myself, in Newton and vicinity, during the last few years, may be of interest. For the identification of a large number of my specimens I am indebted to the kindness of Mr. A. R. Grote. I have several species still undetermined, which I will add as soon as I learn their names.